

SEQUENCE LISTING

<110> Haaning, Jesper Mortensen et al.; Maxygen Holdings Ltd.

<120> FVII or FVIIa variants having increased clotting activity

<130> 0267us310

<140> PCT/DK2003/000632

<141> 2003-09-26

<150> US 60/479,642

<151> 2003-06-19

<150> US 60/414,836

<151> 2002-09-30

<160> 34

<170> PatentIn Ver. 2.1

<210> 1

<211> 406

<212> PRT

<213> Homo sapiens

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Asp	Ala	Glu	Arg	Thr	Lys	Leu	Phe	Trp	Ile	Ser	Tyr	Ser	Asp	Gly	Asp
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Gln	Cys	Ala	Ser	Ser	Pro	Cys	Gln	Asn	Gly	Gly	Ser	Cys	Lys	Asp	Gln
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Leu	Gln	Ser	Tyr	Ile	Cys	Phe	Cys	Leu	Pro	Ala	Phe	Glu	Gly	Arg	Asn
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Cys	Glu	Thr	His	Lys	Asp	Asp	Gln	Leu	Ile	Cys	Val	Asn	Glu	Asn	Gly
				85					90					95	
Gly	Cys	Glu	Gln	Tyr	Cys	Ser	Asp	His	Thr	Gly	Thr	Lys	Arg	Ser	Cys
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Lys	Gly	Glu	Cys	Pro	Trp	Gln	Val	Leu	Leu	Val	Val	Asn	Gly	Ala	Gln
			165					170						175	
Leu	Cys	Gly	Gly	Thr	Leu	Ile	Asn	Thr	Ile	Trp	Val	Val	Ser	Ala	Ala
			180				185						190		
His	Cys	Phe	Asp	Lys	Ile	Lys	Asn	Trp	Arg	Asn	Leu	Ile	Ala	Val	Leu
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Gly	Glu	His	Asp	Leu	Ser	Glu	His	Asp	Gly	Asp	Glu	Gln	Ser	Arg	Arg
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Val	Ala	Gln	Val	Ile	Ile	Pro	Ser	Thr	Tyr	Val	Pro	Gly	Thr	Thr	Asn
225					230					235				240	
His	Asp	Ile	Ala	Leu	Leu	Arg	Leu	His	Gln	Pro	Val	Val	Leu	Thr	Asp
			245					250					255		
His	Val	Val	Pro	Leu	Cys	Leu	Pro	Glu	Arg	Thr	Phe	Ser	Glu	Arg	Thr
			260					265					270		

Leu Ala Phe Val Arg Phe Ser Leu Val Ser Gly Trp Gly Gln Leu Leu
 275 280 285
 Asp Arg Gly Ala Thr Ala Leu Glu Leu Met Val Leu Asn Val Pro Arg
 290 295 300
 Leu Met Thr Gln Asp Cys Leu Gln Gln Ser Arg Lys Val Gly Asp Ser
 305 310 315 320
 Pro Asn Ile Thr Glu Tyr Met Phe Cys Ala Gly Tyr Ser Asp Gly Ser
 325 330 335
 Lys Asp Ser Cys Lys Gly Asp Ser Gly Gly Pro His Ala Thr His Tyr
 340 345 350
 Arg Gly Thr Trp Tyr Leu Thr Gly Ile Val Ser Trp Gly Gln Gly Cys
 355 360 365
 Ala Thr Val Gly His Phe Gly Val Tyr Thr Arg Val Ser Gln Tyr Ile
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 Ala
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 aat gcc ttt ctg gaa gag ctc cgc cct ggc tcc ctg gaa cgc gaa tgc 165
 Asn Ala Phe Leu Glu Glu Leu Arg Pro Gly Ser Leu Glu Arg Glu Cys
 5 10 15
 aaa gag gaa cag tgc agc ttt gag gaa gcc cgg gag att ttc aaa gac 213
 Lys Glu Glu Gln Cys Ser Phe Glu Glu Ala Arg Glu Ile Phe Lys Asp
 20 25 30
 gct gag cgg acc aaa ctg ttt tgg att agc tat agc gat ggc gat cag 261
 Ala Glu Arg Thr Lys Leu Phe Trp Ile Ser Tyr Ser Asp Gly Asp Gln
 35 40 45
 tgc gcc tcc agc cct tgc cag aac ggg ggc tcc tgc aaa gac cag ctg 309
 Cys Ala Ser Ser Pro Cys Gln Asn Gly Gly Ser Cys Lys Asp Gln Leu
 50 55 60 65
 cag agc tat atc tgc ttc tgc ctg cct gcc ttt gag ggg cgc aat tgc 357
 Gln Ser Tyr Ile Cys Phe Cys Leu Pro Ala Phe Glu Gly Arg Asn Cys
 70 75 80
 gaa acc cat aag gat gac cag ctg att tgc gtc aac gaa aac ggg ggc 405
 Glu Thr His Lys Asp Asp Gln Leu Ile Cys Val Asn Glu Asn Gly Gly
 85 90 95
 tgc gag cag tac tgc agc gat cac acg ggc acg aag cgg agc tgc cgc 453

Cys	Glu	Gln	Tyr	Cys	Ser	Asp	His	Thr	Gly	Thr	Lys	Arg	Ser	Cys	Arg		
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Cys	His	Glu	Gly	Tyr	Ser	Leu	Leu	Ala	Asp	Gly	Val	Ser	Cys	Thr	Pro		
	115					120					125						
acg	gtg	gaa	tac	cct	tgc	ggg	aag	att	ccc	att	cta	gaa	aag	cgg	aac	549	
Thr	Val	Glu	Tyr	Pro	Cys	Gly	Lys	Ile	Pro	Ile	Leu	Glu	Lys	Arg	Asn		
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gct	agc	aaa	ccc	cag	ggc	cgg	atc	gtc	ggc	ggg	aag	gtc	tgc	cct	aag	597	
Ala	Ser	Lys	Pro	Gln	Gly	Arg	Ile	Val	Gly	Gly	Lys	Val	Cys	Pro	Lys		
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ggg	gag	tgc	ccc	tgg	cag	gtc	ctg	ctc	ctg	gtc	aac	ggg	gcc	cag	ctg	645	
Gly	Glu	Cys	Pro	Trp	Gln	Val	Leu	Leu	Leu	Val	Asn	Gly	Ala	Gln	Leu		
			165				170						175				
tgc	ggc	ggg	acc	ctc	atc	aat	acc	att	tgg	gtc	gtg	tcc	gcc	gct	cac	693	
Cys	Gly	Gly	Thr	Leu	Ile	Asn	Thr	Ile	Trp	Val	Val	Ser	Ala	Ala	His		
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tgc	ttc	gat	aag	att	aag	aat	tgg	cgg	aac	ctc	atc	gct	gtg	ctc	ggc	741	
Cys	Phe	Asp	Lys	Ile	Lys	Asn	Trp	Arg	Asn	Leu	Ile	Ala	Val	Leu	Gly		
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gaa	cac	gat	ctg	tcc	gag	cat	gac	ggg	gac	gaa	cag	tcc	cgc	cgg	gtg	789	
Glu	His	Asp	Leu	Ser	Glu	His	Asp	Gly	Asp	Glu	Gln	Ser	Arg	Arg	Val		
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gct	cag	gtc	atc	att	ccc	tcc	acc	tat	gtg	cct	ggc	acg	acc	aat	cac	837	
Ala	Gln	Val	Ile	Ile	Pro	Ser	Thr	Tyr	Val	Pro	Gly	Thr	Thr	Asn	His		
			230						235					240			
gat	atc	gct	ctg	ctc	cgc	ctc	cac	cag	ccc	gtc	gtg	ctc	acc	gat	cac	885	
Asp	Ile	Ala	Leu	Leu	Arg	Leu	His	Gln	Pro	Val	Val	Leu	Thr	Asp	His		
			245					250					255				
gtc	gtg	cct	ctg	tgc	ctg	cct	gag	cgg	acc	ttt	agc	gaa	cgc	acg	ctg	933	
Val	Val	Pro	Leu	Cys	Leu	Pro	Glu	Arg	Thr	Phe	Ser	Glu	Arg	Thr	Leu		
		260					265					270					
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Arg	Gly	Ala	Thr	Ala	Leu	Glu	Leu	Met	Val	Leu	Asn	Val	Pro	Arg	Leu		
290					295					300					305		
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aat	atc	acg	gag	tat	atg	ttt	tgc	gct	ggc	tat	agc	gat	ggc	tcc	aag	1125	
Asn	Ile	Thr	Glu	Tyr	Met	Phe	Cys	Ala	Gly	Tyr	Ser	Asp	Gly	Ser	Lys		
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Asp	Ser	Cys	Lys	Gly	Asp	Ser	Gly	Gly	Pro	His	Ala	Thr	His	Tyr	Arg		
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ggg	acc	tgg	tac	ctc	acc	ggg	atc	gtc	agc	tgg	ggc	cag	ggc	tgc	gcc	1221	
Gly	Thr	Trp	Tyr	Leu	Thr	Gly	Ile	Val	Ser	Trp	Gly	Gln	Gly	Cys	Ala		
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Thr	Val	Gly	His	Phe	Gly	Val	Tyr	Thr	Arg	Val	Ser	Gln	Tyr	Ile	Glu		
	370				375				380					385			
tgg	ctg	cag	aag	ctc	atg	cgg	agc	gaa	ccc	cgg	ccc	ggg	gtg	ctc	ctg	1317	
Trp	Leu	Gln	Lys	Leu	Met	Arg	Ser	Glu	Pro	Arg	Pro	Gly	Val	Leu	Leu		
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cg	g	c	c	t	t	c	c	t	t	a						1338	
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<210> 23
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<210> 24
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<210> 29

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<210> 30

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